



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/452,658 12/01/99 FUSHIKI

I M61.12-0179

EXAMINER

WM01/0925

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HAVAN, T	
ART UNIT	PAPER NUMBER

2672

DATE MAILED:

09/25/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/452,658

Applicant(s)

FUSHIKI ET AL.

Examiner

Thu-Thao Havan

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 1999.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31-38 is/are allowed.
- 6) ☐ Claim(s) 1-9 and 21-26 is/are rejected.
- 7) ☐ Claim(s) 10-20 and 27-30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Objections

Claim 10-20 and 27-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: Examiner searching for the step of converting the transformed path from a function that describes an entire curve to a function of the form (please see formula on page 34, line 19) that describes a segment of the curve by setting each (please see formula on page 34, line 20) where c is a fixed fraction, in combination with the other elements of the claim, was not disclosed by, would not have been obvious over, nor would have been fairly suggested by the prior art of record.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application

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by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-9 and 21-26 are rejected under 35 U.S.C. 102(e) as being unpatentable over Miller et al. (US patent no. 6,226,418).

1. As to claims 1 and 21, the prior art Miller had:

A.) A method of displaying an image on a computer screen the method comprising describing at least a portion of a base image as a path (**col. 6, lines 16-67; col. 7, lines 1-10; fig. 2-3**). In figure 2, Miller discloses the base image on the computer screen with the paths drawn in the diagram to see the changes from the original X to the new X format.

B.) The step of performing a non-affine transform on the path to produce a transformed path (**col. 28, lines 65-67; col. 29, lines 1-12; col. 16-18; fig. 7 and 10-11**). In figure 7, Miller teaches the non-affine transform of the image into another non-affine transform path of that image. Furthermore, Miller teaches the computation of a diffeomorphic, non-affine transform for images and curves.

C.) The step of rendering the transformed path onto the computer screen (**fig. 2**). In figure 2, Miller discloses the transform path is disclosed on the computer monitor.

2. As to claims 2 and 23, Miller discloses a bilinear transform (**col. 3, lines 32-67**). Miller teaches the linear transform that also calculates for changing from one image to another.

3. As to claims 3-4, 8, and 24, Miller discloses the portion of the base image as a path comprises describing the portion using a function of order n and $2n$ (**col. 1, lines 50-67; col. 20, lines 38-67**).

4. As to claims 5-7 and 25, Miller discloses the portion as a function of order one and three; and a non-affine transform comprises performing a perspective transform (**col. 9, lines 400-67; col. 10; fig. 3-8**). In figure 8, Miller discloses the function consists of one, two, or three order function.

5. As to claims 9 and 26, Miller discloses the step of approximating the transformed path as a series of lines and rendering each line in the series of lines (**col. 1, 4, and 10-11**). In figure 1, Miller discloses the rendering of the original lines into series of lines that rendering a new image.

5. As to claim 22, Miller discloses a smooth curve (**col. 3, lines 48-67; fig. 9**). Miller discloses the calculation of curvature and surface curve thus would include a smooth curve.

Allowable Subject Matter

Claims 31-38 are allowed.

The following is an examiner's statement of reasons for allowance: The present invention relates in general to the transforming and rendering of graphical curves. The closest prior art, Miller (US 5,987,567) teaches a similar system, which also deals with image matching using curves and lines to generate new images. However, Miller fails to teach the step of converting a function of the form (please see formula on page 43, line 4) that describes a segment of the curves into a function of the form (please see formula on page 43, line 6) that describes a different sized segment of the curve by setting each (please see formula on page 43, line 9) where c is a fixed value that

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determines the segment size. Additionally, the prior art of record fails to teach or suggest the step of converting a function of the form (please see formula on page 43, line 22) that describes a segment of the curve into a function of the form (please see formula on page 44, line 1) that describes an adjacent segment of the curve by setting each (please see formula on page 44, line 4).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Watanabe et al., US Patent No. 5,717,848

Goel, US Patent No. 6,100,894

Graham, US Patent No. 6,271,864

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu-Thao Havan whose telephone number is (703) 308-7062. The examiner can normally be reached on Monday to Thursday from 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (703) 305-4713.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

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or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Thu-Thao Havan

September 20, 2001



MATTHEW LUU
PRIMARY EXAMINER